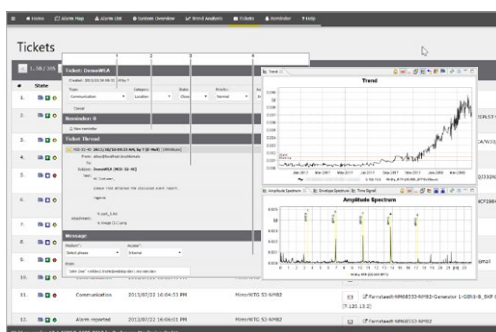
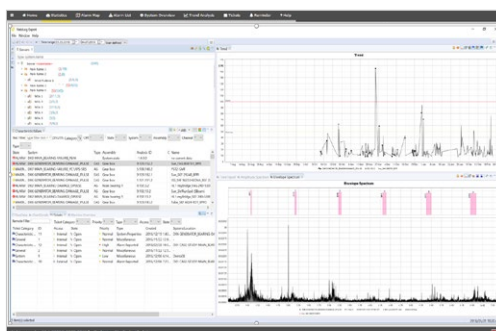
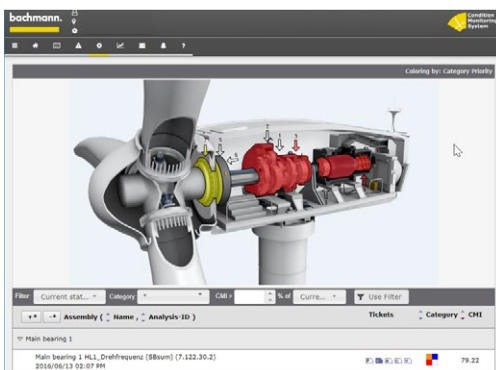




Item	Item-No.
Full Service	00034994-00
Data Pre-Screening	00034995-00
Data Hosting	00034996-00
Licensing	00034997-00



Condition Monitoring – Service Solutions

As one of the leading authorities in the field of condition monitoring, Bachmann provides the entire chain from the hardware, to the software, right through to the CM consulting service. We supply profitable CM solutions for serial use in onshore and offshore wind turbines, and for special applications in the industrial or maritime sectors. Our portfolio is being continuously further developed and updated. We offer modular system solutions, which are individually configured for any turbine or machine type or for the application.

Our services are based on extensive experience of monitoring and utilise economies of scale to provide highly efficient condition monitoring processes, which are DNV Certified, and are supported by accredited quality systems. However, we recognise that different customers have different preferences when it comes to data hosting and analysis, so we have developed a range of different service packages.

Full Service

With our Full Service package, Bachmann are acting as your condition monitoring team. We host the data and fully commission the systems, including after parts exchanges. We screen all the data for anomalies, and provide reports relating to any detected defects via our ticket system. As a customer, you have complete access to your data via the WebLog Portal, which is also your access to the ticket system. The service includes support for investigation of vibration problems, and for IT troubleshooting regarding connection to our systems.

Data Pre-Screening

If you are a customer who already has in house expertise, we provide a service which includes data hosting and covers the routine daily processes for checking the data quality and alarms. Our pre-screening service removes all alarms which relate to pre-existing conditions, transient conditions or data quality issues. This leaves the diagnostics of real new issues to your in-house teams, using our WebLog Portal or WebLog Expert® software, for which you receive a license. The package includes vibration analysis support and IT troubleshooting services, should you require it.

Data Hosting

We can provide the data access you need to carry out your own monitoring without the need for you to build your own expensive IT infrastructure. With our data hosting solution you take full responsibility for your own monitoring services via a cloud solution. A license for WebLog Portal and WebLog Expert® are included with the service, and our analysts are available to you to provide support as required.

WebLog Interface

If you have CMS data from other providers, we can implement a WebLog Interface to bring that data into the WebLog platform, including post processing to generate diagnostic CVs, analogous to those generated on Bachmann systems. With all the monitoring performed through WebLog Expert® the whole process becomes

more streamlined than is possible when using multiple software packages. This option is available for any of the service levels, including as a self-hosted solution.

Licensing

If you wish to take your data in house, then we will support you in doing so, and provide a license package, including technical support for establishing this. Ongoing license costs cover the availability of ongoing support, and regular updates to WebLog Server, WebLog Expert® and WebLog Portal.

What are the advantages of Centralised Remote Monitoring?

Bachmann's Remote Monitoring Team provides a large pool of expertise and knowledge. All staff are trained and accredited, and we ensure knowledge is regularly updated to maintain this. Experience of so many turbines has taught us to recognise a wide range of fault types and severities. Our extended team acts to cover each other in case of sickness or holiday absence, so you don't have to worry about faults that occur whilst your specialist is not available. This also provides the possibility for peer review and second opinions in unusual cases. Furthermore, as independent experts we have no conflict of interests relating to eventual repair costs or liabilities.

What are the requirements to set up a WebLog Server?

Customers who wish to create their own WebLog Server need to be aware of the following requirements:

The customer needs to establish a virtual environment

- vCenter is our preferred solution
- 20 GB Operating system
- 50 GB Application logs
- Data capacity requirements based on 1400 WTG with archiving after 1 year:
 - MySQL Database: 1 TB/year
 - File storage for data (time wave form and spectrum): 7 TB
 - Archive: MySQL database approx. 10 GB
 - Archive: File storage for data (time wave form and spectrum): 7 TB/year
- Licenses:
 - MySQL Enterprise
- Additional services:
 - One mailbox account with pop3 and smtp access for sending and receiving tickets
 - WebLog Server provides the following services which must be accessible from outside:
 - pop3
 - smtp
 - http/https
 - ftp/ftps